We claim:

1. In a method for regulating the temperature range of an NOx accumulator for purifying an internal combustion engine exhaust gas stream guided in an exhaust tract, the improvement which comprises:

discharging a heat flow from the exhaust gas stream upstream of the NOx accumulator as a function of an operating state of the internal combustion engine, for at least one of reliably preventing a maximum load temperature of the NOx accumulator from being exceeded and essentially maintaining a predeterminable temperature range.

2. The method according to claim 1, which further comprises discharging at least part of heat energy contained in the exhaust gas as the heat flow from the exhaust gas stream, at least one of upstream and downstream of a catalytic converter.

3. The method according to claim 1, which further comprises discharging the heat flow from the exhaust gas stream in two stages.

4. The method according to claim 3, which further comprises discharging the heat flow from the exhaust gas stream upstream and downstream of a catalytic converter.

5. The method according to claim 1, which further comprises storing NOx in the NOx accumulator additionally acting as an oxidation catalytic converter.

6. The method according to claim 1, which further comprises discharging the heat flow at 5 kW to 50 kW.

7. The method according to claim 1, which further comprises forced cooling the exhaust tract upstream of the NOx accumulator with blown-off air from an exhaust gas turbocharger associated with the internal combustion engine.

8. The method according to claim 1, which further comprises regulating the discharge of the heat flow, using a regulating variable being a predeterminable range of the temperature of the NOx accumulator as a function of the load of the internal combustion engine.

9. The method according to claim 1, which further comprises forming a predeterminable range of the temperature of the NOx accumulator by a lower temperature of about 150°C and an upper temperature of 700°C.

10. The method according to claim 1, which further comprises forming a predeterminable range of the temperature of the NOx accumulator by a lower temperature of about 150°C and an upper temperature of 500°C.

11. The method according to claim 1, which further comprises operating the internal combustion engine with an air/fuel ratio of lambda ≤ 1, until the NOx accumulator has reached its minimum operating temperature of about 150°C.

12. In a method for regulating the temperature range of an NOx accumulator for purifying an exhaust gas stream of an internal combustion engine, the improvement which comprises:

operating the internal combustion engine with an air/fuel ratio of lambda ≤ 1, at least until the NOx accumulator has reached its minimum operating temperature.

13. The method according to claim 12, which further comprises setting the minimum operating temperature at 150°C.

14. The method according to claim 12, which further comprises storing NOx in the NOx accumulator acting as an oxidation catalytic converter.

15. An exhaust gas catalytic converter system, comprising:

an internal combustion engine emitting an exhaust gas stream;

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an exhaust tract guiding the exhaust gas stream;

an NOx accumulator disposed in said exhaust tract and having a temperature range to be regulated for purifying the exhaust gas stream;

at least one catalytic converter disposed in said exhaust tract; and

at least one heat exchanger disposed upstream of said NOx accumulator in said exhaust tract.

16. The exhaust gas catalytic converter system according to claim 15, wherein said internal combustion engine is a diesel engine.

17. The exhaust gas catalytic converter system according to claim 15, wherein said internal combustion engine is a lean-burn engine.

18. The exhaust gas catalytic converter system according to claim 14, wherein said at least one catalytic converter is a

first catalytic converter, a second catalytic converter is disposed in said exhaust tract, said NOx accumulator is disposed between said first and second catalytic converters, and said at least one heat exchanger is disposed upstream of said first catalytic converter.

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19. The exhaust gas catalytic converter system according to claim 14, wherein said at least one catalytic converter is a first catalytic converter, a second catalytic converter is disposed in said exhaust tract, said NOx accumulator is disposed between said first and second catalytic converters, and said at least one heat exchanger is disposed between said first catalytic converter and said NOx accumulator.

20. The exhaust gas catalytic converter system according to claim 18, including an additional heat exchanger disposed between said internal combustion engine and said first catalytic converter.

21. The exhaust gas catalytic converter system according to claim 18, wherein said first catalytic converter and said second catalytic converter are each three-way catalytic converters.

22. The exhaust gas catalytic converter system according to claim 21, wherein said first catalytic converter has a very low oxygen storage capacity.

23. The exhaust gas catalytic converter system according to claim 19, wherein said first catalytic converter and said second catalytic converter are each three-way catalytic converters.

24. The exhaust gas catalytic converter system according to claim 23, wherein said first catalytic converter has a very low oxygen storage capacity.

25. The exhaust gas catalytic converter system according to claim 18, wherein said NOx accumulator and said second catalytic converter are integrated in one unit.

26. The exhaust gas catalytic converter system according to claim 15, wherein said NOx accumulator has a three-way catalytic coating.

27. The exhaust gas catalytic converter system according to claim 15, wherein said at least one heat exchanger has a cooling capacity of 5 kW to 50 kW.

28. The exhaust gas catalytic converter system according to claim 15, wherein said at least one heat exchanger is a countercurrent heat exchanger.

29. The exhaust gas catalytic converter system according to claim 28, wherein said at least one heat exchanger is a tube having two walls, an interior through which exhaust gas flows and a chamber between said two walls through which coolant flows.

30. The exhaust gas catalytic converter system according to claim 15, wherein said at least one heat exchanger is a ribbed tube section of said exhaust tract around which coolant flows.

31. The exhaust gas catalytic converter system according to claim 29, wherein the coolant is water or air flowing as a forced flow through said at least one heat exchanger.

32. The exhaust gas catalytic converter system according to claim 30, wherein the coolant is water or air flowing as a forced flow through said at least one heat exchanger.

33. The exhaust gas catalytic converter system according to claim 31, including an exhaust gas turbocharger associated with said internal combustion engine, said exhaust gas

turbocharger producing blown-off air flowing through said at least one heat exchanger.